

Confidence and uncertainty in casework decisions: The supervisor's role

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## Abstract

Social work supervisors play an important role in decision making in all practice settings. This paper reviews research on confidence and uncertainty from cognitive psychology literature and its applicability to social work supervision and decision making. Various factors influencing confidence and uncertainty such as task type, information processing, cognitive conflict, cueing and weighting effects are discussed along with strategies to reduce uncertainty and increase confidence that supervisors can use to enhance their decision making.

## **Confidence and uncertainty**

Some situations require more than one individual making the decision and usually people collect information from others or consult others before making a decision even if the final decision is theirs alone (Heath & Gonzales, 1995). For example, managers sometimes solicit information from subordinates, peers, and superiors but make the final decision themselves. The same is true for various social work settings where the supervisor consults or discusses the situation with workers before making a decision. This article will explore the impact of confidence and uncertainty on individual and group decision making and demonstrate its relevance to social work supervision. It will also review some of the major factors that influence confidence and uncertainty.

The Judge-Advisor System (JAS) is a paradigm proposed by Sniezek and Buckley (1989) that studies decision making by groups with differentiated roles. That is, different members in the organization perform different functions which in turn determines the level of their participation and authority in the decision making process (Katz & Kahn, 1966; Sniezek & Buckley, 1995). In the JAS paradigm one or more advisors provide recommendations to the judge who makes the final decision. But the decision impacts both the advisors and the judge. This paradigm is illustrated with the example of case consultation. A school social worker (the judge) is meeting with an interdisciplinary team of professionals (the advisors) to discuss the case of a child acting out in school. The social worker receives information from others on the interdisciplinary team. However, the social worker must decide what his or her role and response would be in this situation as one of the members of the team. Similarly, a child welfare supervisor

(the judge) is presented a case in a team meeting to help decide whether a child should be returned home. Caseworkers provide valuable information and insights but the supervisor is responsible for approving the final decision. Confidence and uncertainty have been found to be an essential part of the decision making process and significantly impact decision accuracy.

### **Confidence and social influence**

Confidence is a person's belief that a statement is the best or most accurate response (Peterson & Pitz, 1988). Poor decisions made with great confidence can be dangerous. Child welfare professionals are cautious when making decisions as inaccurate decisions can have adverse consequences for the children and their families and can even result in the death of the child. The same is true for mental health professionals where an incorrect diagnosis can result in inappropriate treatment.

On the other hand, doubting an accurate decision can be just as damaging (Sniezek, 1992). A child welfare caseworker might have accurately recognized a child was being abused but due to lack of certainty not substantiated the report. This could result in harmful consequences for the child. Sniezek and Henry (1989) stress that confidence in judgments is just as important as the quality of the decision itself.

Confidence influences decisions as well as serves as an outcome of the decision making process. Confidence is considered a mechanism of influence between advisors and the judge during the decision making process (Buckley & Sniezek, 1990; Deutsch & Gerard, 1955). Research has revealed substantial differences in confidence between

groups as a whole and their individual members (e.g., Boje & Murnighan, 1982; Sniezek & Henry, 1989, 1990; Sniezek & Kolzow, 1994).

While the principal goal of decision making by multiple people is to maximize the decision and choice quality because group members together have more information than any one individual (Sniezek & Buckley, 1995), some group members may exercise more influence on the decision regardless of the available information. Since decision making in organizations is essentially social in nature, members' confidence can influence decisions. Communicating the advisor's confidence to the judge can influence the decision. Researchers have demonstrated that freely interacting groups tend to choose the recommendation of the most confident member (Stephenson et al, 1986; Hinsz, 1990).

While confidence enhances one's influence on others, uncertainty results in increased reliance on others and their suggestions. In situations where there are conflicting recommendations the judge is more likely to agree with the more confident advisor (Sniezek & Buckley, 1995). When discussing recommended treatment options in a group meeting, the supervisor might be more inclined towards the suggestions of the more confident social workers. This influence tends to be more pronounced if the supervisor was uncertain of his or her stand to begin with.

The general conclusion is that people are not very good at matching accuracy and confidence in making difficult decisions (Lichtenstein, Fischhoff, & Phillips, 1982). This is called calibration (Sniezek & Henry, 1989). People tend to be overconfident in their decisions. For example, it is not uncommon for social workers to be very confident in

their treatment recommendations in spite of a lack of empirical support for the intervention (Rosen et al, 1995; Rosen, 1994).

**Factors that influence confidence and accuracy.**

Several factors influence confidence and accuracy of decision making. The type of decision plays an important role in determining confidence and accuracy as all decisions are not of the same type. Information processing is a key element in some types of decisions. Some additional factors include cueing (Ronis & Yates, 1987; Sniezek et al., 1990), cognitive conflict (Rohrbaugh, 1979; Sniezek & Henry, 1989), and revision and weighting (Sniezek & Henry, 1990; Sniezek & Henry, 1989; Stasser & Davis, 1981) and these factors are explained below.

**Task Type.** The decision task has been found to effect confidence as a predictor of influence on the decision maker. Confidence is a significant predictor of influence for intellectual tasks and not judgmental tasks. Judgmental tasks have no correct answer. Many casework decisions are judgmental task. For example, during a case consultation discussion for an adult client with severe and persistent mental illness, who experiences repeated hospitalizations due to noncompliance with medication, there is no “correct” answer. There is no known intervention that will assure medication compliance.

An intellectual task is one that meets certain criteria (Laughlin & Ellis, 1986). There must be a conceptual system with agreement on the rules of the system and there must be sufficient information to solve the problem. Incorrect members should be able to understand the correct response when explained to them by a correct member who has the time and capability to explain it to the rest of the group. This may seem like rather

stringent criteria but social work includes many intellectual tasks. For example, social workers follow certain rules and guidelines when identifying mental disabilities. While somewhat controversial, DSM-IV is a conceptual system with wide agreement on the rules of diagnosis. When a worker identifies a diagnosis for a client with serious mental illness, the diagnosis can be explained to other professionals. Evidence can be presented for and against the diagnosis and people can come to a consensus about the diagnosis. In other words there is a process through which this type of decision can be verified.

**Increased information processing.** Overconfidence in a decision can be decreased through increasing information processing in social interactions. Researchers have found that requiring consideration of greater numbers of alternatives reduces overconfidence (Ronis & Yates, 1987; Sniezek, Paese, & Switzer, 1990). This demonstrates the need for supervisors and workers to discuss options during the decision making process. For example, when making a permanency decision for a child, the supervisor and caseworker need to weigh the pros and cons of all alternatives available such as reunification, adoption and guardianship before deciding on the best choice for a particular child. Similarly, when considering institutional care for an elderly client with Alzheimer's, other options such as home health care, adult foster care etc. should be explored prior to making the decision.

**Cognitive conflict.** When the advisors and judge are in agreement over their final decision, it reduces the scope of discussion and the amount of information discussed because there is no further task to be performed (Sniezek et al., 1990). However, in situations of disagreement it becomes essential to think about and discuss the alternatives

and the pros and cons of the decision in order to arrive at a consensual decision.

Disagreement among advisors is common if there is inadequate information, or the decision problem is full of uncertainties. This is common in social work as rarely do professionals have all the required information to make a decision. In child welfare, for example, investigations, home visits and meetings with teachers and relatives don't necessarily provide the child welfare worker with all the information needed to make a decision.

Disagreement has been found to be greater when judges make their decisions prior to consultation than if they suspend judgment until after discussing alternative with the advisors (Sniezek & Henry, 1989). Sniezek et al's (1990) model predicts that conflict arising from contradictory recommendations from advisors will have a positive effect on performance as it encourages consideration of all information available in the environment. All else being equal conflict is expected to benefit performance more than no conflict in the judge advisor form of decision making. This suggests that when faced with a disagreement about a decision, supervisors should suspend judgment until there can be a full discussion of the various recommendations.

**The cueing effect.** Cueing refers to drawing the judge's attention to a particular alternative before the judge makes a choice (Ronis & Yates, 1987; Sniezek et al., 1990). When this occurs, the judge's overconfidence is raised above the level observed in standard conditions in which the subject selects a "correct" alternative prior to any interaction or recommendation. Sniezek et al (1990) propose a heuristic model that states

that confidence and accuracy are dependent on the amount of information the decision maker searches for about each alternative.

Cueing is thought to make people less accurate but more confident about their accuracy as it reduces information processing about the uncued alternatives. Essentially when people are cued in a direction it tends to make them more certain of the decision while reducing their own brainstorming of the problem and potential solutions.

Supervisors need to be cautious when making a decision based primarily on input from caseworkers, where cueing might have occurred, as it might make them overconfident of their decision resulting in less effort on their part and leading to inaccurate decisions.

Research in this area has focused on judges making decisions in three different ways. First, independent decision making refers to a judge making an initial decision, receiving the advisors' recommendations and then making a final decision. Second, cued decision making refers to a judge receiving the advisors' recommendations and then making a final decision. Third, dependent decision making refers to a judge not having any knowledge about the task or the decision alternatives and necessarily adopting the advisors' recommendation (Snizek & Buckley, 1995). Thus, there are two sources of information available to judges—internal and external. Internal information refers to the judge's own knowledge concerning the decision problem and possible solutions. Advice or recommendation of others constitutes external information.

Snizek and Buckley (1995), in their research in this area, focused on effects of cueing and cognitive conflict on confidence, overconfidence, and accuracy of decision making in judge-advisor systems. They found cueing had the predicted negative effect

on performance. Cued judges who received conflicting advice were no more accurate than dependent judges probably because cueing prevented them from accessing their own internal information. Dependent judges had the least amount of information but they were the most confident when there was no disagreement between advisors. This is consistent with findings from other research such as Fischhoff and MacGregor (1982) and Keren (1987) who found judges with less knowledge to be more certain and more overconfident. It is interesting to note that dependent judges who could not bring their own knowledge to the task expressed the highest confidence and were less accurate than the judges who used their own information. This finding has important implications for social work decision making in that it is so easy to be overconfident and incorrect. Due to high caseloads and other work pressures, supervisors tend to rely on the caseworker for most of the details of the case. These findings encourage the supervisors to gather basic facts about the case (e.g. reason for investigation, family information such as living conditions, financial status, identified problems etc.) and make their own initial independent choices before asking caseworkers for their recommendation. Then the supervisor can make the final decision taking into consideration the information that they obtained and the recommendations of the caseworkers.

The results of this study also show that advisor consensus plays a more significant role in decision making than advisor confidence. Judges were found to switch from their initial choice if advisors disagreed with the choice. But under the disagreement situations, advisor confidence plays a more powerful role. Therefore, it is important for supervisors to know and understand the fallacy of totally relying on the judgment of a

confident caseworker when multiple caseworkers are in disagreement as that might not be a precise indicator of the “correct” decision.

**Revision and Weighting.** Sniezek and Henry (1989) found group judgments to be superior to individual judgments because they were more accurate and the group was more confident than individuals. This study examined the group process by which individual judgments are combined and found groups to be superior in risky decision making. They also found that overestimation and underestimation biases that were observed with individual judgments were reduced with group interaction.

Sniezek and Henry (1990) developed the Revision and Weighting model to help explain group decision making. Revision refers to individuals revising their initial decisions or choice as a result of social interaction and this occurs at the individual level within the group. In contrast, weighting is the group process of forming a single group judgment from revised individual judgments. The exchange of information within the group leads to changes in individual member judgments and their respective confidence (Stasser & Davis, 1981). With continued discussions and interactions, revisions decrease and stabilize and attention shifts to combining individual judgments. This can be simple if individual members arrive at the same decision. However, when there is conflicting advice some combination of recommendations will be required before a final consensual decision can be made.

The range of opinion in the group impacts the consensus decision and is particularly affected by bias and disagreement (Sniezek & Henry, 1989). These researchers examined three weighting schemes that can be used to combine disparate

opinions. These schemes are equal weighting, selecting the median position, and selecting the best position. In the first, equal weight is given to each individual judgment when forming the group decision. The second method is referred to as the “one-for-all” strategy where the median individual judgment is selected as the group judgment and extremist judgments are ignored (Sniezek & Henry, 1989). For the third method or “best” rule the decision of the most accurate member is selected as the group decision.

The mean or averaging method is usually used when there is low disagreement among the group members as that reduces the need for further discussion. But this averaging improves the quality of the decision only when individual judgments are unbiased, therefore, in most group decisions a non-averaging process needs to be used. Also averaging doesn't allow for the consideration of factors as status, talkativeness, and experience all of which might play an important role in social work decision making.

The “one-for-all” strategy is where the median individual judgment is selected as the group judgment and extremist judgments are ignored (Sniezek & Henry, 1989). For example, in discussing policies regarding corporal punishment being appropriate or inappropriate for children, the decisions of those who are totally against or for it should be ignored as extreme judgments.

Sniezek & Henry (1989) found the “best” model to provide a good fit to the actual judgment process. Use of this method in social administration requires the supervisor or decision maker to know the decision making accuracy of individual team members. For example, when making a reunification decision for a child in foster care, child welfare caseworkers and supervisors have no tangible way of knowing that their decision is

accurate. However, over the next several weeks the accuracy of the decision becomes apparent. Wulczyn, Goerge, & Brunner's (1999) analysis shows that about 20 percent of children returned home from foster or substitute care reenter care within one year. So a supervisor of a team of child welfare workers can keep a "score card" of workers reunification success. When discussing a particularly difficult case with considerable disagreement among group members the supervisor would put more weight upon the opinion of the worker with the best record of reunification success.

### **Strategies to reduce and cope with confidence and uncertainty**

Organizations frequently assign multiple persons to a decision task and multiple judges can help increase the confidence of a group decision. However, this does not necessarily lead to increased accuracy (Sniezek & Henry, 1989). In the context of social work decision making, accuracy can seldom be determined at the time the decision is made. Therefore, it is important to consider how well decision makers recognize their confidence and uncertainty and how this influences decision making.

Since people tend to be overconfident and not well calibrated in their evaluation of their response, it is essential for decision makers to be cautious when making critical decisions (Einhorn et al., 1977; Lichtenstein, Fischhoff, & Phillips, 1982). A supervisor's confidence in a decision might serve as a "red" flag since confidence may not be a good indicator of their accuracy. The supervisor's first task in this situation is to determine which type of decision is under consideration. Confidence is less of a factor in tasks that do not have a "right" answer (judgment tasks) than in tasks that are verifiable (intellective). In other words confidence in a decision on how to assist a person with

severe mental illness locate a volunteer job is less of a concern (because it is a judgmental task) than confidence in determining a diagnosis or whether abuse occurred (intellective task).

The next step in the process is to increase information processing. Again, confidence can be detrimental. Cooper and Snizek (1999) found a negative correlation between confidence and search for information, i.e., the more confident the decision makers the less information they solicited. However, information processing does reduce overconfidence and improves decision accuracy. Increasing information processing involves collecting information, seeking advice and discussing case information with workers. Workers may agree on their recommendations because they are all selecting the most accurate decision choice or because they are all incorrect. Consequently, when a team agrees on a recommendation, the authors encourage that the decision be reviewed based on the criteria specified for an intellective task. That is, (1). How does this recommendation fit with the rules of the system? That is, how does the recommendation fit with policies, procedures or the conceptual framework that relates to the decision? For example, how does the recommendation fit with the legislative and/or agency definition of child abuse or how well does the recommendation fit with DSM-IV criteria. (2). Does the team have sufficient information to support their recommendation? (3). How would the recommendation be explained to someone in the same field who might disagree? (4). What is the likelihood that this person would be convinced?

When workers disagree on a recommendation for a decision, the next step is for the supervisor to suspend judgment. An important part of suspending judgment is

awareness of team members suggesting their particular recommendation (cueing).

Cueing increases overconfidence, decreases accuracy and reduces information processing. The supervisor then gathers information, discusses the information with the team and seeks the recommendations of all team members. The recommendation of the worker that has been most accurate in the past is given more consideration as the final decision is made.

There is always some degree of uncertainty associated with unfamiliar judgments and it is hard to know when an accurate decision has been reached by the group members (Hart, 1985). Incomplete information is possibly the most frequently cited source of uncertainty (Conrath, 1967; Smithson, 1989). However, decision makers are sometimes unable to act not because they lack information but because they are overwhelmed by the abundance of conflicting meanings that the information they have conveys (Weick, 1987, 1995). For example, a mother may be very loving towards the children and financially able to take care of the children but the house is infected with roaches and in disarray leading to unhealthy living conditions for the children. This could signal conflicting meanings to the child welfare investigator who is investigating the case in response to a neglect complaint against the mother. Mental health professionals face similar dilemmas when diagnosing various mental illnesses.

Researchers in behavioral decision theory have further explored what decision makers can do to reduce uncertainty. Shafir, Simonson, and Tversky (1993) suggested that people make decisions under risk by constructing compelling qualitative arguments to justify their decisions. Also people make decisions without information on the

probabilities and utilities of potential outcomes by ignoring and by using arguments that do not quantify risks (Hogarth & Kunreuther, 1995). For example, teams tend to make decisions about leaving a child with a substantiated report of abuse or neglect, without consideration of the probability of reabuse. While this probability is not known in this particular case it is known across cases.

Lipshitz and Strauss (1997) distinguish among three strategies of coping with uncertainty: reducing uncertainty, acknowledging uncertainty, and suppressing uncertainty. Tactics for reducing uncertainty include collecting additional information before making a decision (Dawes, 1989; Galbraith, 1973; Janis & Mann, 1977) or deferring the decision until more information is available (Hirst & Schwitzer, 1990). It is also possible to reduce uncertainty by extrapolating information when no additional information is available. This can be done by developing arguments that involve filling gaps by making assumptions that go beyond what is known (Cohen, 1989).

Another tactic for reducing uncertainty involves combining prediction and assumption based reasoning and is referred to as mental simulation (Klein & Crandall, 1995) or scenario building. This is the imagination of possible future developments in a script like fashion. All the above tactics rely on some form of information processing to help reduce uncertainty and increase confidence. For example, the school social worker trying to determine the likelihood of a child repeating violent behavior could involve mental simulation of the conditions under which the violence has occurred, making assumptions about the child and what has changed since the last episode and basing a prediction on this scenario.

Some times reducing uncertainty is not feasible. In this case acknowledging uncertainty is recommended. Whether it is child abuse or the violent behavior of a child in a school, violence is highly unpredictable. Frequently, workers need to acknowledge this uncertainty and take it into account in selecting a course of action and by preparing to avoid or confront potential risks.

Suppressing uncertainty includes tactics of denial (ignoring or distorting undesirable information) and tactics of rationalization (Lipshitz & Strauss, 1997). The tactic of ignoring undesirable information was described as the Pollyanna effect, the acquisition of a false sense of security through the belief that “this cannot happen to me” (Matlin & Stang, 1978). Brunsson (1985), Lipshitz (1995), and Montgomery (1988) have stressed that even the seemingly irrational tactic of suppressing uncertainty can help decision makers avoid paralysis when they cannot cope with uncertainty by reduction or acknowledgment. This might be a more frequent though undesirable occurrence in social work decision making. For example, when presenting a case in court, the child welfare caseworker is required to make recommendations based on concrete verifiable information. In a permanency decision case the caseworker might recommend reunification using the mother’s successful completion of a drug rehabilitation program and parenting skills classes and current participation in an after-care program as the rationalization even though the worker is worried about a positive urine screen 10 months ago. This is not to imply that the caseworker is intentionally justifying an inappropriate recommendation, but is maybe subconsciously rationalizing the recommendation with more recent empirical factors versus past occurrences.

In summary, social work professionals, in particular supervisors, play an important role in the lives of children and their families and society at large with the decisions they make, recommend, or supervise. Considering the power and influence exerted by supervisors in the decision making process it becomes imperative to increase their awareness of this process and the significance of their role. Utilization of techniques discussed in this paper including but not limited to searching for additional information, considering and weighing all options, increasing information processing, and recognizing and accounting for uncertainty in situations can facilitate more informed decision making and reduce the incidence of potentially harmful consequences. These strategies could lead to decision making in a manner that reduces uncertainty and assists social workers in their day-to-day activities. It would further serve as the foundation for improved social work practice and better outcomes for clients.

## References

Boje, D. M., & Murnighan, J. K. (1982). Group confidence pressures in iterative decision. Management Science, 28(10), 1187-1196.

Brunsson, N. (1985). The irrational organization. Chichester: Wiley.

Buckley, T., & Sniezek, J. A. (1990). Confidence as influence in a no feedback choice task. Annual Meeting of the Judgment and Decision Making Society, New Orleans, Louisiana.

Cohen, M.S. (1989). A database tool to support probabilistic assumption-based reasoning in intelligence analysis. Proceedings of the 1989 Joint Director of the C2 Symposium, Ft. McNair, VA.

Conrath, D. (1967). Organizational decision making behavior under varying conditions of uncertainty. Management Science, 13, B487-B500.

Dawes, R. M. (1989). Rational choice in an uncertain world. New York: Harcourt Brace Jovanovich.

Deutsch, M., & Gerard, H. B. (1955). A study of normative and informational social influence on individual judgment. Journal of Abnormal and Social Psychology, 51, 629-636.

Einhorn, H. J., Hogarth, R. M., & Klempner, E. (1977). Quality of group judgment. Psychological Bulletin, 84, 158-172.

Fischhoff, B., & MacGregor, D. (1982). Subjective confidence in forecasts. Journal of Forecasting, 1, 155-172.

Galbraith, J. (1973). Designing complex organizations. Reading, MA: Addison Wesley.

Hart, S. L. (1985). Toward quality criteria for collective judgments. Organizational Behavior and Human Decision Processes, 36, 209-228.

Heath, C., & Gonzales, R. (1995). Interaction with others increases decision confidence but not decision quality: Evidence against information collection views of interactive decision making. Organizational Behavior and Human Decision Processes, 61, 305-326.

- Hinsz, V. B. (1990). Cognitive and consensus processes in group recognition memory performance. Paper presented at the Midwestern Psychological Association, Chicago.
- Hirst, E., & Schwitzer, M. (1990). Electric-utility resource planning and decision making: The importance of uncertainty. Risk Analysis, 10, 137-146.
- Hogarth, R. M., & Kunreuther, H. (1995). Decision making under ignorance: Arguing with yourself. Journal of Risk and Uncertainty, 10, 15-36.
- Janis, I. L., & Mann, L. (1977). Decision making: A psychological analysis of conflict, choice, and commitment. New York: Free Press.
- Katz, D., & Kahn, R. L. (1966). The Social Psychology of Organizations. New York: Wiley.
- Keren, G. (1987). Facing uncertainty in the game of bridge: A calibration study. Organizational Behavior and Human Decision Processes, 39, 98-114.
- Klein, G. A., & Crandall, B. W. (1995). The role of mental simulation in naturalistic decision making. In P. Hancock, J. Flach, J. Caird, & K. Vicente (Eds.), Local applications of the ecological approach to human-machine systems. Hillsdale, NJ: Erlbaum.
- Laughlin, P. R., & Ellis, A. L. (1986). Demonstrability and social combination processes on mathematical intellectual tasks. Journal of Experimental Social Psychology, 22, 177-189.
- Lichtenstein, S., Fischhoff, B., & Phillips, L. D. (1982). Calibration of probabilities: The state of the art. In D. Kahneman, P. Slovic, & A. Tversky (Eds.), Judgment and uncertainty: Heuristics and biases. Cambridge: Cambridge University Press.
- Lipshitz, R. (1995). The road to "Desert Storm": Escalation of commitment and the rational vs. single-option paradigms in the study of decision making. Organization Studies, 16, 243-263.
- Lipshitz, R., & Strauss, O. (1997). Coping with uncertainty: A naturalistic decision making analysis. Organizational Behavior and Human Decision Processes, 69(2), 149-163.
- Matlin, M. W., & Stang, D. J. (1978). The Pollyanna principle: Selectivity in language, memory, and thought. Cambridge, MA: Schenkman.

Montgomery, H. (1988). From cognition to action: The search for dominance in decision making. In H. Montgomery, & O. Svenson (Eds.), Process and structure in decision making. New York: Wiley.

Peterson, D. K., & Pitz, G. F. (1988). Confidence, uncertainty, and the use of information. Journal of Experimental Psychology: Learning, Memory, and Cognition, *14*, 85-92.

Rohrbaugh, J. (1979). Improving the quality of group judgment: Social judgment analysis and the Delphi technique. Organizational Behavior and Human Performance, *24*, 73-92.

Ronis, D. L., & Yates, J. F. (1987). Components of probability judgment accuracy: Individual consistency and effects of subject matter and assessment method. Organizational Behavior and Human Decision Processes, *40*, 193-218.

Rosen, A. (1995). Knowledge use in direct practice. Social Service Review, *68*, 561-577.

Rosen, A., Proctor, E. E., Morrow-Howell, N., & Staudt, M., (1994). Rationales for practice decisions: Variations in knowledge use by decision task and social work service. Research on Social Work Practice, *5*, 501-523.

Shafir, E., Simonson, I., & Tversky, A. (1993). Reason-based choice. Cognition, *49*, 11-36.

Smithson, M. (1989). Ignorance and uncertainty: Emerging paradigms. New York: Springer Verlag.

Sniezek, J. A. (1992). Groups under uncertainty: An examination of confidence in group decision making. Special issue of Organizational Behavior and Human Decision Processes, *52*, 124-155.

Sniezek, J. A., & Buckley, T. (1989). Social influence in the advisor-judge relationship. Annual meeting of the Judgment and Decision Making Society, Atlanta, Georgia.

Sniezek, J. A., & Buckley, T. (1995). Cueing and cognitive conflict in judge-advisor decision making. Organizational Behavior and Human Decision Processes, *62*(2), 159-174.

Sniezek, J. A., & Henry, R. (1989). Accuracy and confidence in group judgment. Organizational Behavior and Human Decision Processes, *43*(1), 1-28.

Snizek, J. A., & Henry, R. (1990). Revision, weighting, and commitment in consensus group judgment. Organizational Behavior and Human Decision Processes, 45(1), 66-84.

Snizek, J. A., & Kolzow, K. (1994). From disagreement and uncertainty to consensus and confidence in group judgment. Manuscript in review (Need to check).

Snizek, J. A., Paese, P. W., & Switzer, F. S. (1990). The effect of choosing on confidence in choice. Organizational Behavior and Human Decision Processes, 46(2), 264-282.

Stasser, G., & Davis, J. H. (1981). Group decision making and social influence: A social interaction sequence model. Psychological Review, 88, 523-551.

Stephenson, G. M., Abrams, D., Wagner, W., & Wade, G. (1986). Partners in recall: Collaborative order in the recall of a police interrogation. British Journal of Social Psychology, 25, 341-343.

Weick, K. E. (1987). The social psychology of organizing. Reading, MA: Addison Wesley.

Weick, K. E. (1995). Sensemaking in organizations. Thousand Oaks, CA: Sage.